DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027699
Date Inspected: 02-Jun-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name: Bernie Docena and Jesse Cayabyab

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Electro Slag Weld (ESW), QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing the dual shielded Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16” diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3000-3 repair. The ABF welder was also noted using the remotely controlled track mounted Bug-o welder nozzle holder during welding. The repair excavation was preheated and continuously maintained to more than 325 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded was located at ESW ‘E’ face A from Y=400mm to Y=4140mm for a total continuous length of 3740mm was approved per Request for Welding Repair (RWR) #201205-024 dated May 21, 2012. During the shift, ABF QC Jesse Cayabyab was noted monitoring the welder with measured working current of 260 amperes, 23.0 voltage with travel speed of 170mm per inch. At the end of the shift, 3G FCAW-G repair welding at location mentioned above was completed. Listed below was the first time repair being welded during the shift;

Location	Weld No.	Y-dim.	Length	Width	Depth	Remarks
10.	ESW ‘E’ N-045	400mm	3740mm	+50mm	+40mm	Completed.

At Tower Base 13 meter diaphragm, ABF welder Lou Xiao Hua was observed performing 3F (vertical position)

Shielded Metal Arc Welding (SMAW) welding cover pass on 250mm X 250mm X 100mm thick corner stiffener plate shop marked 380 fillet weld T-joint W141-2 and W142-2. The welder was noted using SMAW with 3.2mm diameter E7018H4R electrode on the cover pass implementing Caltrans approved welding procedure ABF-WPS-D15-F1200A. The corner stiffener has a 45 degree double bevel configured for a Partial Joint Penetration (PJP) on one side and 30mm fillet weld on the other side per detail drawing FWT30 of FWDT-2 Field Welding Schedule drawing. The stiffener plate is being welded to the 70mm tower skin plate on one side. The welder was noted adding fillet welding on the cover due to inadequate fillet weld size that was noted by this QA. Prior welding, the plates were preheated to more than 225°F using propylene gas torch. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 225°F. This QA Inspector performed a verification of the welding parameters and observed 130Amperes on 3.2mm diameter electrode. At the end of the shift, the 3F (vertical position) fillet SMAW welding was completed at two locations mentioned above.

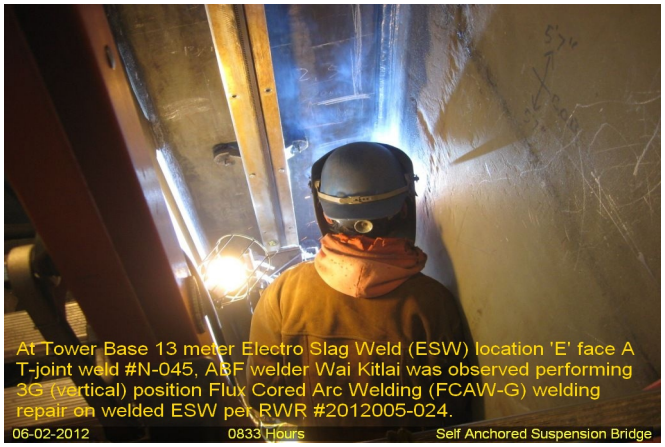
At Tower Base 13 meter external diaphragms, this QA noted ABF personnel continuing to grind the welded cover of West and South external diaphragms W110 and W111 respectively in preparation for the Visual Test (VT) and the Magnetic Particle Testing (MT) to be performed by ABF QC and QA. During the shift, ABF QC Bernie Docena was noted monitoring the various activities being performed by ABF personnel. At the end of the shift, grinding of various corner stiffeners and flush grinding on the weld cover of PJP T-joints W110 and W111 were still continuing.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the welded PJP T- joints between the corner stiffener plate and tower skin plate. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. Tower 13meter diaphragm – corner stiffener PJP T-joint W139-1 weld cover QA verified.
2. Tower 13meter diaphragm – corner stiffener PJP T-joint W140-1 weld cover QA verified.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer